UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,773	03/28/2006	Shigeo Yoshida	2006_0398A	5519

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WENDEROTH, LIND & PONACK L.L.P.
2033 K. STREET, NW
SUITE 800
WASHINGTON, DC 20006

EXAMINER
MASUR, PAUL H

ART UNIT	PAPER NUMBER
2416	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

Office Action Summary	Application No.	Applicant(s)
	10/573,773	YOSHIDA ET AL.
	Examiner	Art Unit	
	Paul Masur	2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 March 2006*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 10-12* is/are rejected.

7)☒ Claim(s) *2-9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 March 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *03/282006*.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Specification

1.   Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:
(1) if a machine or apparatus, its organization and operation;
(2) if an article, its method of making;
(3) if a chemical compound, its identity and use;
(4) if a mixture, its ingredients;
(5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3.   Claim 11 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claim merely recites a program per se.

The claim does not define any structural and functional interrelationships between the

computer program and other claimed elements of a computer which permit the

computer program's functionality to be realized (See MPEP § 2106.01)

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102

that form the basis for the rejections under this section made in this Office

action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.   Claims 1 & 10-12 are rejected under 35 U.S.C. 102(e) as being anticipated

by Kopp (US PG Pub 2004/0070912, IDS cited prior art).

6.   **As per claim 1**, Kopp teaches a communication apparatus for communicating

with another communication apparatus via a transmission line in which characteristics of

the transmission line periodically change [Kopp, paragraph 0005, "By modifying the

communication scheme as the power cycle phase enters these predetermined regions,

the overall throughput of the communications system can be increased", End to end

communications on a PLC require that the accommodations be made for changing line

conditions.], the communication apparatus comprising:

a transmission line estimation portion for dividing a period by which the

characteristics of the transmission line are changed into n number of sections [Kopp, fig.

2, paragraph 0037, "The overall concept of the present invention is to determine regions

of the power cycle where the noise level of that region is different from that of other

regions", The transmission line is divided into segments and the characteristics for each

segment are determined.] (n is an integer equal to or greater than 2) [Kopp, fig. 2,

elements A & B, The line is divided into a number of sections.] and estimating the

characteristics of the transmission line regarding each of the n number of sections

[Kopp, fig. 2, paragraph 0037, "It should be noted that although the regions shown in

FIG. 2 are symmetric about the zero-crossing of the power cycle, as well as symmetric

about the peaks of the power cycle, such symmetry need not be required, depending

upon the type of noise which is determined to be present at various phase angles of the

power cycle. Indeed, the noise may be related to rectification noise associated with gap

noise which may cause high frequency noise in either the ascending or descending

portion of the power cycle, but not in both portions", Estimating the noise in each region

does not need to be exact; the value can be set equal to comparable values.]; and

a communication parameter determination portion for acquiring n number of

communication parameters optimum for the respective n number of sections in

accordance with an estimation result obtained by the transmission line estimation

portion [Kopp, fig. 5, elements 34 & 36, paragraph 0039, "Finally, FIG. 5 includes

optional modules 34, 36 and 38 which correspond with the steps shown in FIG. 4 for

determining throughput throughout the various regions selected (module 34), comparing

those determined throughputs with a range associated with each region as previously

determined (module 36)", The actual measured value is compared to a range of values

of the current region.], and determining one communication parameter which is optimum

for all the n number of sections based on the n number of communication parameters

[Kopp, fig. 5, paragraph 0032, " Based upon the comparator output as presented on

output line 28, a communication scheme is selected in communication module 31 which

in turn is used for purposes of modulating the communication signal", A communication

scheme is picked through the use of the results from the comparator.].

7.   **As per claim 10**, Kopp teaches a communication line estimation method

executed by a communication apparatus for communicating with another

communication apparatus via a transmission line in which characteristics of the

transmission line periodically change [Kopp, paragraph 0005, "By modifying the

communication scheme as the power cycle phase enters these predetermined regions,

the overall throughput of the communications system can be increased", End to end

communications on a PLC require that the accommodations be made for changing line

conditions.], the method comprising:

       dividing a period by which the characteristics of the transmission line are

changed into n number of sections [Kopp, fig. 2, paragraph 0037, "The overall concept

of the present invention is to determine regions of the power cycle where the noise level

of that region is different from that of other regions", The transmission line is divided into

segments and the characteristics for each segment are determined.] (n is an integer

equal to or greater than 2) [Kopp, fig. 2, elements A & B, The line is divided into a

number of sections.] and estimating the characteristics of the transmission line

regarding each of the n number of sections [Kopp, fig. 2, paragraph 0037, "It should be

noted that although the regions shown in FIG. 2 are symmetric about the zero-crossing

of the power cycle, as well as symmetric about the peaks of the power cycle, such

symmetry need not be required, depending upon the type of noise which is determined

to be present at various phase angles of the power cycle. Indeed, the noise may be

related to rectification noise associated with gap noise which may cause high frequency

noise in either the ascending or descending portion of the power cycle, but not in both

portions", Estimating the noise in each region does not need to be exact; the value can

be set equal to comparable values.]; and

acquiring n number of communication parameters optimum for the respective n

number of sections in accordance with an estimation result obtained by the estimating

[Kopp, fig. 5, elements 34 & 36, paragraph 0039, "Finally, FIG. 5 includes optional

modules 34, 36 and 38 which correspond with the steps shown in FIG. 4 for determining

throughput throughout the various regions selected (module 34), comparing those

determined throughputs with a range associated with each region as previously

determined (module 36)", The actual measured value is compared to a range of values

of the current region.], and determining one communication parameter which is optimum

for all the n number of sections based on the n number of communication parameters

[Kopp, fig. 5, paragraph 0032, " Based upon the comparator output as presented on

output line 28, a communication scheme is selected in communication module 31 which

in turn is used for purposes of modulating the communication signal", A communication

scheme is picked through the use of the results from the comparator.].

8.   **As per claim 11**, Kopp teaches a program for causing a communication

apparatus, for communicating with another communication apparatus via a transmission

line in which characteristics of the transmission line periodically change [Kopp,

paragraph 0005, "By modifying the communication scheme as the power cycle phase

enters these predetermined regions, the overall throughput of the communications

system can be increased", End to end communications on a PLC require that the

accommodations be made for changing line conditions.], to execute communication line

estimation, the program comprising:

dividing a period by which the characteristics of the transmission line are

changed into n number of sections [Kopp, fig. 2, paragraph 0037, "The overall concept

of the present invention is to determine regions of the power cycle where the noise level

of that region is different from that of other regions", The transmission line is divided into

segments and the characteristics for each segment are determined.] (n is an integer

equal to or greater than 2) [Kopp, fig. 2, elements A & B, The line is divided into a

number of sections.] and estimating the characteristics of the transmission line

regarding each of the n number of sections [Kopp, fig. 2, paragraph 0037, "It should be

noted that although the regions shown in FIG. 2 are symmetric about the zero-crossing

of the power cycle, as well as symmetric about the peaks of the power cycle, such

symmetry need not be required, depending upon the type of noise which is determined

to be present at various phase angles of the power cycle. Indeed, the noise may be

related to rectification noise associated with gap noise which may cause high frequency

noise in either the ascending or descending portion of the power cycle, but not in both

portions", Estimating the noise in each region does not need to be exact; the value can

be set equal to comparable values.]; and

acquiring n number of communication parameters optimum for the respective

number of sections in accordance with an estimation result obtained by the estimating

[Kopp, fig. 5, elements 34 & 36, paragraph 0039, "Finally, FIG. 5 includes optional

modules 34, 36 and 38 which correspond with the steps shown in FIG. 4 for determining

throughput throughout the various regions selected (module 34), comparing those

determined throughputs with a range associated with each region as previously

determined (module 36)", The actual measured value is compared to a range of values

of the current region.]; and

determining one communication parameter which is optimum for all the n number

of sections based on the n number of communication parameters [Kopp, fig. 5,

paragraph 0032, " Based upon the comparator output as presented on output line 28, a

communication scheme is selected in communication module 31 which in turn is used

for purposes of modulating the communication signal", A communication scheme is

picked through the use of the results from the comparator.].

9.   **As per claim 12**, Kopp teaches an integrated circuit usable for a communication

apparatus for communicating with another communication apparatus via a transmission

line in which characteristics of the transmission line periodically change [Kopp,

paragraph 0005, "By modifying the communication scheme as the power cycle phase

enters these predetermined regions, the overall throughput of the communications

system can be increased", End to end communications on a PLC require that the

accommodations be made for changing line conditions.], the integrated circuit including

circuits integrated and acting as:

a transmission line estimation portion for dividing a period by which the

characteristics of the transmission line are changed into n number of sections [Kopp, fig.

2, paragraph 0037, "The overall concept of the present invention is to determine regions

of the power cycle where the noise level of that region is different from that of other

regions", The transmission line is divided into segments and the characteristics for each

segment are determined.] (n is an integer equal to or greater than 2) [Kopp, fig. 2,

elements A & B, The line is divided into a number of sections.] and estimating the

characteristics of the transmission line regarding each of the n number of sections

[Kopp, fig. 2, paragraph 0037, "It should be noted that although the regions shown in

FIG. 2 are symmetric about the zero-crossing of the power cycle, as well as symmetric

about the peaks of the power cycle, such symmetry need not be required, depending

upon the type of noise which is determined to be present at various phase angles of the

power cycle. Indeed, the noise may be related to rectification noise associated with gap

noise which may cause high frequency noise in either the ascending or descending

portion of the power cycle, but not in both portions", Estimating the noise in each region

does not need to be exact; the value can be set equal to comparable values.]; and

a communication parameter determination portion for acquiring n number of

communication parameters optimum for the respective n number of sections in

accordance with an estimation result obtained by the transmission line estimation

portion [Kopp, fig. 5, elements 34 & 36, paragraph 0039, "Finally, FIG. 5 includes

optional modules 34, 36 and 38 which correspond with the steps shown in FIG. 4 for

determining throughput throughout the various regions selected (module 34), comparing

those determined throughputs with a range associated with each region as previously

determined (module 36)", The actual measured value is compared to a range of values

of the current region.], and determining one communication parameter which is optimum

for all the n number of sections based on the n number of communication parameters

[Kopp, fig. 5, paragraph 0032, " Based upon the comparator output as presented on

output line 28, a communication scheme is selected in communication module 31 which

in turn is used for purposes of modulating the communication signal", A communication

scheme is picked through the use of the results from the comparator.].

Allowable Subject Matter

10.   Claims 2-9 are objected to as being dependent upon a rejected base claim,

but would be allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims.

Conclusion

11.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Paul Masur whose telephone number is (571) 270-7297.

The examiner can normally be reached on Monday through Friday from 7:00AM to

4:30PM (Eastern Time).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ricky Ngo/
Supervisory Patent Examiner, Art
Unit 2416

/P. M./
Examiner, Art Unit 2416